

R E M A R K S

By this Amendment claims 24 and 36 have been amended to better define the invention, claims 25-29, 31-35, 37048 and 50-56 have been amended to improve their presentations, claim 49 has been canceled, and claims 57-64 have been added to define further aspects of the invention.

Amended claim 24 now recites a method which is patentably distinguished from the prior art by the step of "conducting the harvesting of fruit from the plant by sweeping the frequency of the vibrations linearly or non-linearly from an initial sweep frequency to a final sweep frequency." In other words, the frequency is swept during the harvesting. This method step is not disclosed in the prior art. In this regard, as previously explained Pellenc does not disclose a sweeping of the vibration frequency linearly or non-linearly from an initial sweep frequency to a final sweep frequency. Furthermore, with regard to Zehavi (newly cited), the examiner indicates that lines 25 to 30 in column 5 teach a varying or sweeping of vibration frequency "to sufficiently locate the resonance frequency of a given tree, which results in the most efficient harvest when the tree is vibrated at this frequency" – (page 3 of the Official Action). In other words, the method disclosed in Zehavi requires the harvesting of a tree to be conducted at a particular resonance frequency of the tree and a person of ordinary skill is taught to initially determine this resonance frequency by varying/sweeping through different vibration frequencies.

In this way, the frequency providing the maximum displacement amplitude can be determined as the characteristic resonance frequency. The harvesting of the tree is then conducted at this characteristic frequency (i.e., the "final shaking frequency" - see lines 19 and 20 in column 5 of Zehavi).

There is no disclosure in Pellenc or Zehavi which, when considered either alone or in combination, teaches a person of ordinary skill in the art to harvest fruit from the plant by sweeping the frequency linearly or non-linearly from an initial sweep frequency to a final sweep frequency, as required by amended claim 24. In practice, harvesting fruit by sweeping the frequency allows a greater control over the way in which the plant/tree moves in response to the drive means which is applying the vibrations. More specifically, in the prior art systems the practical result of shaking a plant/tree at a particular frequency (such as in Pellenc) or at the resonance frequency (as in Zehavi) is that all parts of the plant/tree (or at least a large proportion of the plant/tree) moves. However, through use of the present invention the movement of the plant may be limited to a smaller proportion of the tree and, more specifically, to the fruit and stem (fruit-stem) combination. The movement of branches and even the trunk of the plant/tree is ideally minimized so as to avoid an unnecessary loss of energy and so as to thereby improve the efficiency of the vibration driving process. As fruit is removed from the plant during harvesting, the physical characteristics of the plant will be understood to

change, and the characteristics of the plant as a vibratory entity will also be understood to change. Nevertheless, sweeping the frequency of the vibrations allows the efficiency of the driving process to be maintained. In other words, the movement of the plant may be substantially limited to movement of the fruit-stem combination throughout the harvesting. This is not disclosed nor taught by the prior art.

With reference to the independent apparatus claim 36, amendment has been made so as to require that "the reaction mass is slideably held in a cage of bars having friction reducing means." The holding of the reaction mass with bars having "friction reducing means" ensures that the reaction mass can be moved precisely, immediately, and efficiently. This in turn allows for a precise movement of the reaction mass and thereby allows the required control necessary in order to drive a plant with a sweeping frequency of vibrations as mentioned above. The prior art 'shaking' devices do not comprise the arrangement now recited in claim 36 and do not provide the precision, immediacy or efficiency benefits of the apparatus recited in claim 36 and are therefore less able (if at all) to implement the method described above and achieve the results mentioned.

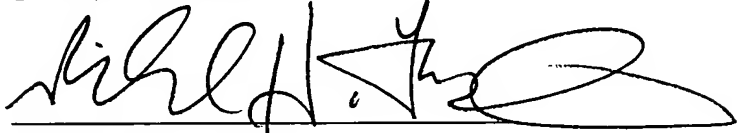
Favorable evaluation is requested.

Additional claim fees can be charged to Deposit Account No. 04-
2223.

Respectfully submitted,

DYKEMA GOSSETT PLLC

By:

A handwritten signature in black ink, appearing to read 'Richard H. Tushin', written over a horizontal line.

Richard H. Tushin
Registration No. 27,297
Franklin Square, Third Floor West
1300 I Street, N.W.
Washington, DC 20005-3353
(202) 906-8600